# ELM POINT WATER TREATMENT PLANT - WELLFIELD EXPANSION CITY OF ST. CHARLES, MISSOURI

FEBRUARY 2016

PROJECT NUMBER 15WTR9
TOWNSHIP T47N, RANGE R4E, SECTIONS 13 AND 24

UTUITY NOTE

THE UNDERGROUND UTILITIES SHOWN HEREON ARE TAKEN FROM UTILITY LOCATIONS AS CONTRACTED THROUGH DIGRITE AND MARKED IN THE FIELD BY VARIOUS UNDERGROUND UTILITY LOCATORS, INCLUDING USIC.

DIGRITE TICKET NUMBER(S): #153422051 (12/08/2015)

AMEREN MISSOURI ELECTRIC: MARKED FACILITIES AS SHOWN HEREON. MAPS NOT PROVIDED FOR SITE.

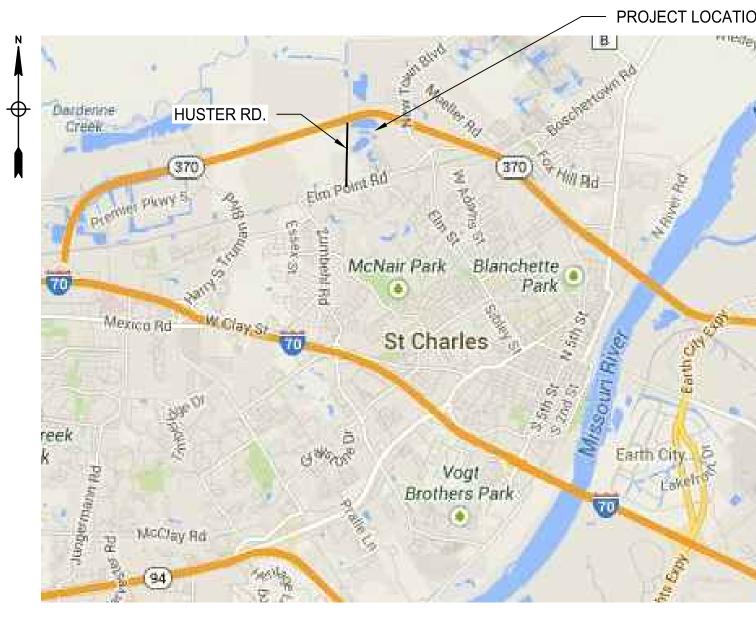
AT&T: MARKED FACILITIES AS SHOWN HEREON. MAPS NOT PROVIDED FOR SITE. FIBER OPTIC - CONTACT Mike Coffey (314) 378-5992.

LACLEDE GAS: MAPS PROVIDED FOR SITE. SITE CLEAR.

CHARTER COMMUNICATIONS: MARKED BURIED FACILITIES AS SHOWN HEREON.

CITY OF ST. CHARLES: MARKED CITY OWNED WATER AND SANITARY SEWER. MAPS PROVIDED FOR SITE.

THE UNDERGROUND UTILITIES SHOWN HEREON ARE TAKEN FROM UTILITY LOCATIONS AS MARKED IN THE FIELD BY DIGRITE AND MAPS OBTAINED FROM THE CITY OF ST. CHARLES WATER AND SEWER AND LACLEDE GAS COMPANY AND DO NOT NECESSARILY REFLECT THE ACTUAL EXISTENCE, NONEXISTENCE, SIZE, TYPE, NUMBER, OR LOCATION OF THESE OR OTHER UTILITIES. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE ACTUAL LOCATION OF ALL UNDERGROUND UTILITIES, SHOWN OR NOT SHOWN, AND SHALL BE LOCATED IN THE FIELD PRIOR TO ANY GRADING, EXCAVATION, OR CONSTRUCTION OF IMPROVEMENTS. THESE PROVISIONS SHALL IN NO WAY ABSOLVE ANY PARTY FROM COMPLYING WITH THE UNDERGROUND FACILITY SAFETY AND DAMAGE PREVENTION ACT, CHAPTER 319, RSMO.



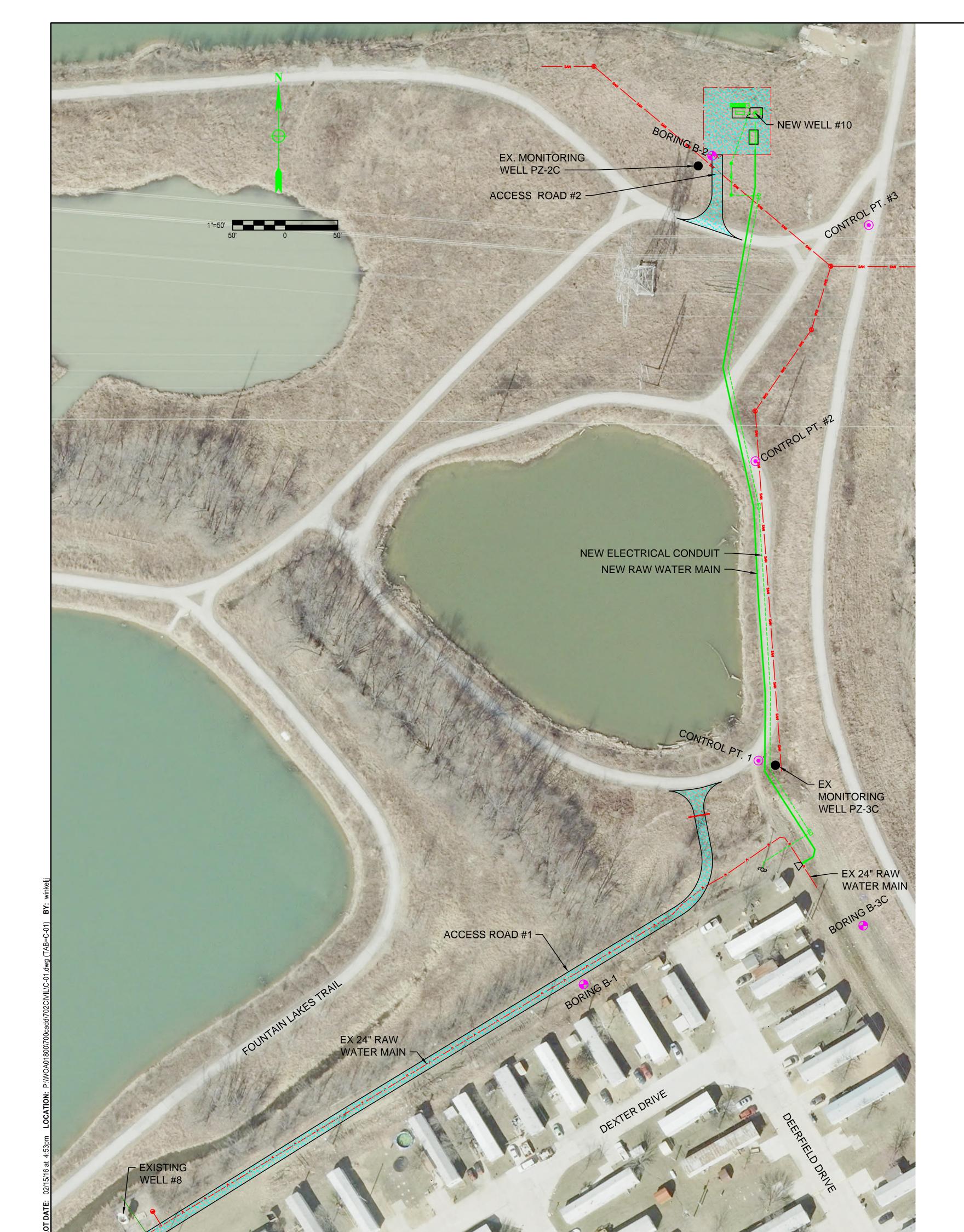
LOCATION MAP NOT TO SCALE

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	<u>GENERAL</u>
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C-02	EROSION CONTROL AND LEVEE REPAIR SITE PLAN
C-03	RAW WATER MAIN PLAN & PROFILE WELL #10
C-04	WELL #10 SITE PLAN
C-05	ACCESS ROAD #1 PLAN & PROFILE
C-06	ACCESS ROAD #2 PLAN, PROFILE AND CROSS SECTIONS
C-07	MISCELLANEOUS DETAILS
C-08	FENCING DETAILS
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S-03	WELL HOUSE PLATFORM SHEET 3 OF 3
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MECHANICAL	
M-01	WELL #10 PLAN & SECTION
ELECTRICAL	
E-01	SYMBOLS AND LEGEND
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E-08	WELL DESIGN DETAILS - MISC. 1 MGD
E-09	POWER DISTRIBUTION SITE PLAN









Trim 24 x 36

# SURVEY CONTROL POINT COORDINATES COORDINATE VALUES (GROUND) U.S. FOOT (MODIFIED STATE PLANE (NAD 83)) (VERTICAL DATUM NAVD 88)

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IUMBER	NORTHING	EASTING	ELEVATION	DESCRIPTION
1	1087971.658	813275.931	439.20	SET IRON PIPE
2	1088256.364	813273.124	438.45	SET IRON PIPE
3	1088480.856	813380.854	449.50	LONG NAIL SET

### PERMITS TO BE OBTAINED BY CONTRACTOR

- MISSOURI DEPARTMENT OF NATURAL RESOURCES —
  LAND DISTURBANCE PERMIT
- CITY OF ST. CHARLES DEPARTMENT OF COMMUNITY DEVELOPMENT BUILDING PERMIT
- CITY OF ST. CHARLES DEPARTMENT OF COMMUNITY DEVELOPMENT FENCE PERMIT
- MISSOURI DEPARTMENT OF NATURAL RESOURCES SURVEY OF PRESSURE GROUT SEALING OF WELL CASING
- MISSOURI DEPARTMENT OF NATURAL RESOURCES —
   PUBLIC WELL/HIGH YIELD RECORD
- MISSOURI DEPARTMENT OF NATURAL RESOURCES —
   PUMP INFORMATION RECORD
- MISSOURI DEPARTMENT OF NATURAL RESOURCES PUMP TEST RECORD

## PERMITS TO BE OBTAINED PRIOR TO CONSTRUCTION BY ENGINEER

- MISSOURI DEPARTMENT OF NATURAL RESOURCES
   CONSTRUCTION PERMIT
- FEMA ELEVATION CERTIFICATE
- CITY OF ST. CHARLES DEPARTMENT OF COMMUNITY DEVELOPMENT FLOODPLAIN DEVELOPMENT PERMIT

### DESIGN STANDARDS AND CODE REQUIREMENTS

- ST. LOUIS COUNTY DEPARTMENT OF TRANSPORTATION — STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION
- AWWA A100-15 WATER WELLS
- MISSOURI DEPARTMENT OF NATURAL RESOURCES —
   MINIMUM DESIGN STANDARDS FOR MISSOURI
   COMMUNITY WATER SYSTEMS
- CITY OF ST. CHARLES SPECIFICATIONS AND CONSTRUCTION DETAILS FOR WATER MAIN AND WATER SERVICE CONSTRUCTION, EXTENSION AND/OR ALTERATIONS
- IBC 2015, MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES
- 2014 NFPA 70 (NEC)
- 2015 IMC
- ACI 318-14, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE
- AISC STEEL CONSTRUCTION MANUAL, 13TH EDITION
- OSHA STANDARDS 29 CFR 1910

	12" RAW	WATER MAIN		
POINT ALIGNMENT				
Point #	Description	Northing	Easting	
1	0+00.00	1088552.71	813272.80	
2	0+35.87	1088516.84	813272.80	
3	2+09.80	1088345.62	813242.21	
4	3+45.66	1088212.92	813271.32	
5	4+34.69	1088124.01	813275.93	
6	5+23.70	1088035.24	813282.41	
7	5+97.65	1087961.29	813281.99	
8	6+86.86	1087887.05	813329.64	
9	6+92.78	1087880.29	813328.14	
10	7+05.68	1087873.59	813317.13	

**GENERAL NOTES:** 

- 1. RAW WATER MAIN TO BE CONSTRUCTED IN ACCORDANCE WITH CITY OF ST. CHARLES STANDARD SPECIFICATIONS FOR CONSTRUCTION OF PUBLIC WATER MAINS.
- 2. CONTRACTOR SHALL PROTECT EXISTING PIPING DURING CONSTRUCTION.
- ALL PIPE TO BE RESTRAINED JOINT DIP UNLESS OTHERWISE NOTED. UNDERGROUND FACILITIES, STRUCTURES AND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE SURVEYS AND RECORDS. THEREFORE, THEIR LOCATIONS MUST BE CONSIDERED APPROXIMATE ONLY. THERE MAY BE OTHERS, EXISTENCE OF WHICH IS PRESENTLY NOT KNOWN. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO HAVE ALL UTILITIES LOCATED IN THE FIELD PRIOR TO EXCAVATION OR CONSTRUCTION.
- 4. BASIS OF BEARINGS FOR THIS SURVEY ADOPTED FROM MISSOURI STATE PLANE COORDINATE SYSTEM OF 1983, EAST ZONE, GRID NORTH.
- 5. ALL TIES SHOWN ARE PERPENDICULAR TO THE PROPERTY LINES TO WHICH THEY ARE TIED UNLESS NOTED OTHERWISE.
- 6. ACCORDING TO THE FLOOD INSURANCE RATE MAP
  (#29183C0260E DATED AUGUST 2, 1996), THIS PROPERTY
  LIES IN ZONE AE. ZONE AE IS DEFINED AS EXISTING 100
  YEAR FLOOD AREA WITH BASE FLOOD ELEVATION DETERMINED.
  100 YEAR BASE FLOOD ELEVATION 443.0'
- 7. REFERENCE BENCHMARK CSC27 ELEVATION 432.20' BRONZE CITY OF ST. CHARLES SURVEY MARKER DISK STAMPED CSC 27 2003 SET INTO THE TOP OF A 12—INCH DIAMETER 54 INCH DEEP CONCRETE MONUMENT AND SET FLUSH WITH THE GROUND. THE STATION IS 12.8 FEET NORTH OF THE NORTH EDGE OF BETHMANN ROAD PAVEMENT, 78.5 FEET NORTHEAST OF A POWER POLE, 55.0 FEET EAST OF A POWER POLE, AND 11.5 FEET NORTHEAST OF A STOP SIGN.
- 8. SITE BENCHMARK ELEVATION 471.98' TOP OF WEST BOLT ON FIRE HYDRANT AT THE NORTHEAST
- 9. ALL IMPROVEMENTS CONSTRUCTED HEREIN SHALL COMPLY WITH THE CODE OF ORDINANCES OF THE CITY OF ST. CHARLES.
- 10. IF PROPERTY IS GREATER THAN 1 ACRE, A LAND DISTURBANCE PERMIT FROM THE MISSOURI DEPARTMENT OF NATURAL RESOURCES IS REQUIRED PRIOR TO COMMENCING ANY DEMOLITION, CLEARING OR CONSTRUCTION ON SITE. PROVIDE COPY OF APPROVAL FROM THE DEPARTMENT OF NATURAL RESOURCES TO THE PUBLIC WORKS DEPARTMENT. (PERMIT #\_\_)
- 11. SILTATION CONTROL SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE IN ACCORDANCE WITH THE SWPPP PLAN. ADDITIONAL SILTATION CONTROL MAY BE REQUIRED AS DIRECTED BY THE CITY ENGINEER. (CODE SECTION 510.090.B)
- 12. WHEN GRADING OPERATIONS ARE COMPLETED OR SUSPENDED FOR MORE THAN 30 DAYS, PERMANENT GRASS MUST BE ESTABLISHED TO CONTROL EROSION. (CODE SECTION 510.090.D.1)
- 13. ALL MUD AND DEBRIS FROM CONSTRUCTION SITE TO BE KEPT OFF OF CITY MAINTAINED STREETS. STREETS SHALL BE SWEPT TWICE DAILY. (CODE SECTION 510.090.E)
- 14. ALL WATER MAIN CONSTRUCTION INCLUDING VALVES, SLEEVES, METERS, HYDRANTS AND FITTINGS MUST CONFORM TO CITY OF ST. CHARLES WATER SPECIFICATIONS.
- 15. WHEN A SANITARY SEWER LATERAL CROSSES OVER A WATER LINE, A MINIMUM VERTICAL CLEARANCE OF 18" SHALL BE PROVIDED. IF THIS CLEARANCE IS NOT POSSIBLE, THEN BOTH THE WATER LINE AND THE SEWER LINE WILL BE ENCASED IN CONCRETE UNTIL THERE IS A 10' HORIZONTAL CLEARANCE BETWEEN THE TWO LINES.
- 16. ALL STORM SEWER DESIGN IS TO CONFORM TO THE CITY OF ST. CHARLES DESIGN REQUIREMENTS. (CODE SECTION 510.290)
- 17. ALL STORM SEWER CONSTRUCTION IS TO BE PER THE LATEST EDITION OF THE METROPOLITAN ST. LOUIS SEWER DISTRICT

  (MSD) STANDARD CONSTRUCTION SPECIFICATIONS FOR SEWERS
- AND DRAINAGE FACILITIES. (CODE SECTION 510.280)
  18. ALL UTILITIES SHALL BE LOCATED UNDERGROUND.
- 19. ALL FILLED PLACES UNDER PROPOSED STORM AND SANITARY SEWER AND/OR PAVED AREAS SHALL BE COMPACTED TO 90% OF MAXIMUM DENSITY AS DETERMINED BY THE MODIFIED AASHTO T-180 COMPACTION TEST OR 95% OF MAXIMUM DENSITY AS DETERMINED BY THE STANDARD PROCTOR TEST AASHTO T-99.
- 20. ALL FILLED PLACES IN PROPOSED ROADS (INCLUDING GRAVEL ROADS AND PARK TRAILS) SHALL BE COMPACTED FROM THE BOTTOM OF THE FILL UP TO 90% MAXIMUM DENSITY AS DETERMINED BY THE MODIFIED AASHTO T-180 COMPACTION TEST OR 95% OF MAXIMUM DENSITY AS DETERMINED BY THE STANDARD PROCTOR TEST AASHTO T-99. ALL TESTS SHALL BE VERIFIED BY A SOILS ENGINEER CONCURRENT WITH GRADING AND BACKFILLING OPERATIONS.
- 21. GRADES CANNOT EXCEED A 3:1 SLOPE. (CODE SECTION 510.090.A)
- 22. CONSTRUCTION ACTIVITIES SHALL ABIDE BY THE NOISE RESTRICTIONS AS OUTLINES IN CODE SECTION 230.

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Rev.	Date	Description	Drawn	Checked Approved	Approved	Submitted
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POINT WATER TREATMENT PLANT - WELLFIELD Charles, Missouri

Division

Works

**EXPANSION** 

Title

CIVIL

GENERAL NOTES,

CONTROL POINTS

& OVERALL SITE

PLAN

Date FEBRUARY 2016

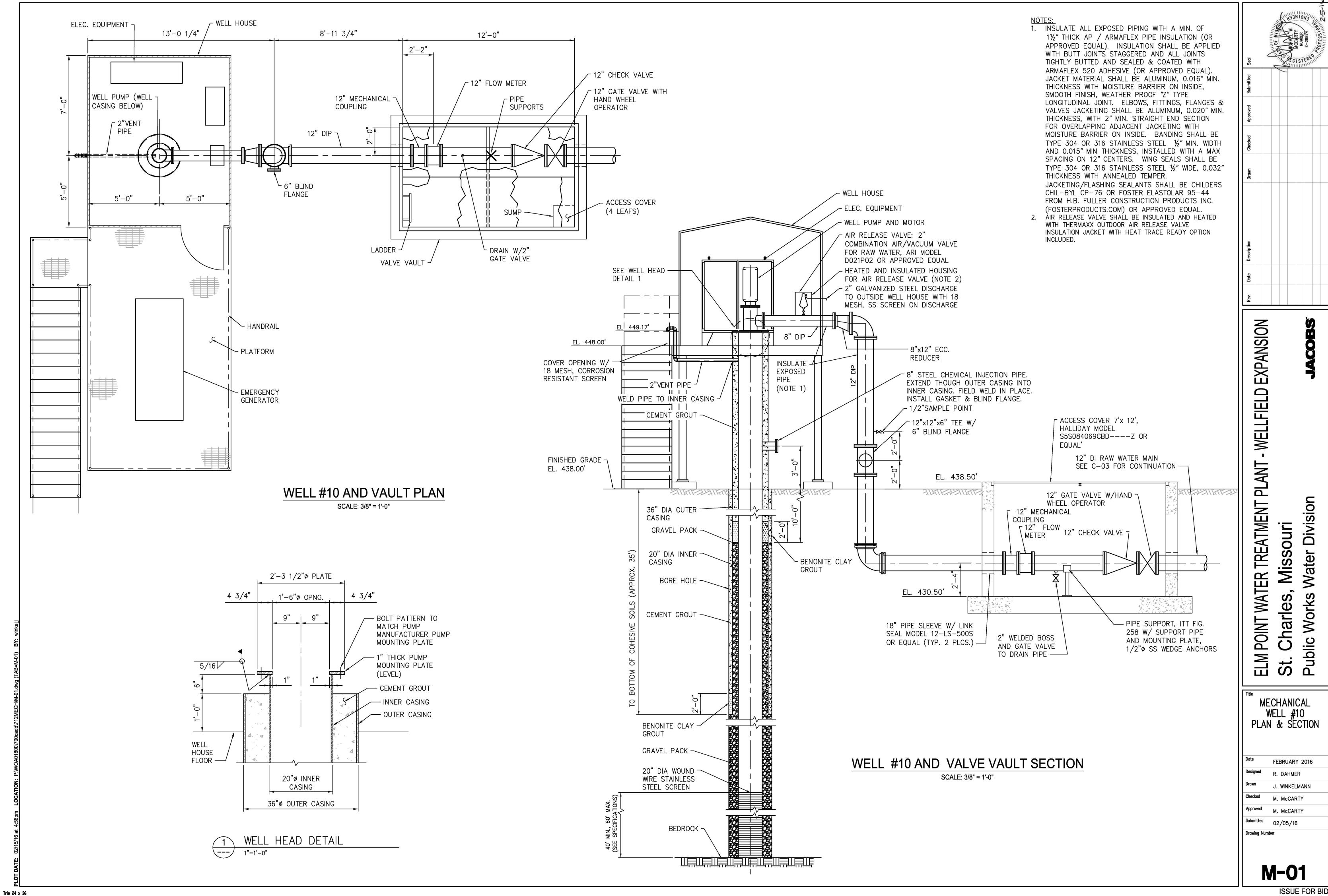
Designed R. DAHMER

St

Drawn J. WINKELMANN
Checked M. McCARTY
Approved M. McCARTY

Submitted 02/05/16
Drawing Number

C-01



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